

Title (en)  
RANGING TECHNOLOGY USE FOR ULTRA-BROADBAND COMMUNICATION IN MILLIMETER WAVE COMMUNICATION SYSTEMS

Title (de)  
VERWENDUNG EINER ENTFERNUNGSMESSTECHNOLOGIE ZUR ULTRABREITBANDKOMMUNIKATION IN MILLIMETERWELLEN-KOMMUNIKATIONSSYSTEMEN

Title (fr)  
UTILISATION D'UNE TECHNOLOGIE DE TÉLÉMÉTRIE POUR LA COMMUNICATION À ULTRA-LARGE BANDE DANS DES SYSTÈMES DE COMMUNICATION À ONDES MILLIMÉTRIQUES

Publication  
**EP 3764555 A1 20210113 (EN)**

Application  
**EP 20181030 A 20200619**

Priority  
US 201916449557 A 20190624

Abstract (en)  
A base station includes a millimeter wave communication unit coupled to an impulse radio ultra-wideband (IR-UWB) communication unit. The millimeter wave communication unit is capable of being wirelessly coupled to user-equipment using a millimeter wave communication link. Based on a determination as to whether the user-equipment is configured for IR-UWB ranging and localization, an IR-UWB communication link is established between the base station and user-equipment for IR-UWB ranging and localization. When the IR-UWB communication link is established for IR-UWB ranging and localization, the ranging and localization associated with the millimeter wave communication unit is disabled and the millimeter wave communication link is used for data communication maximizing throughput by utilizing localization and ranging information provided by the IR-UWB communication link.

IPC 8 full level  
**H04B 1/7163** (2011.01); **G01S 3/02** (2006.01); **G01S 5/02** (2010.01); **H04B 7/04** (2017.01); **H04B 7/06** (2006.01); **H04B 7/08** (2006.01)

CPC (source: CN EP US)  
**G01S 3/50** (2013.01 - US); **G01S 5/0205** (2013.01 - EP); **G01S 5/10** (2013.01 - CN); **G01S 7/006** (2013.01 - US); **G01S 13/765** (2013.01 - US); **G01S 13/878** (2013.01 - US); **H01Q 5/25** (2015.01 - US); **H04B 1/3833** (2013.01 - US); **H04B 1/7163** (2013.01 - CN EP); **H04W 64/006** (2013.01 - CN); **H04W 76/10** (2018.01 - US); **G01S 5/02** (2013.01 - EP); **H04B 2201/71634** (2013.01 - EP)

Citation (search report)  
• [XYI] US 2009213901 A1 20090827 - BERENS FRIEDBERT [CH]  
• [Y] SAAD M M ET AL: "High accuracy location estimation for a Mobile Tag using one-way UWB signaling", UBIQUITOUS POSITIONING, INDOOR NAVIGATION, AND LOCATION BASED SERVICE (UPINLBS), 2012, IEEE, 3 October 2012 (2012-10-03), pages 1 - 8, XP032307943, ISBN: 978-1-4673-1908-9, DOI: 10.1109/UPINLBS.2012.6409769

Cited by  
WO2022169619A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3764555 A1 20210113**; CN 112135343 A 20201225; US 11327151 B2 20220510; US 2020400777 A1 20201224

DOCDB simple family (application)  
**EP 20181030 A 20200619**; CN 202010502484 A 20200604; US 201916449557 A 20190624